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Claims 1-8 are presented, of which claims 1, 3 and 7 are independent. Claims 1 and 3 are amended (claim 3 only rewritten in independent form); claims 2 and 4 are original; and claims 5-8 are newly presented.

Claims 3 and 4 were objected to in the office action as being based on a rejected base claim; but it was stated that they would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims. Claim 3 had been so amended; and claim 4, being dependent on claim 3, thus requires no further amendment. Both of claims 3 and 4 should thus now be allowable.

Claims 1 and 2 stand rejected under 35 USC 103(a) as being unpatentable over Davidson (US6222122) in view of Chapman (US5392510). But neither reference in Examiner's combination teaches the use of a connector to close and seal the open end of a housing while retaining the attached circuit board within the housing. Applicant does not dispute Examiner's statement that Chapman teaches attaching a connector to a circuit board; but Chapman does not teach using use of such an attached connector to close and seal a housing in which the circuit board is contained. It does not follow obviously from Chapman that the attached connector should be so used. Davidson does not show a separate electrical connector for the circuit board, but rather provides a second, separate housing member. He provides connection to the circuit board by having the circuit board project outward between the two housing members. If he were to use a connector as shown in Chapman, that connector would be hanging onto the end of the circuit board outside the housing and would be subject to damage from heat, cold, moisture, corrosive salts, etc. in harsh environments such as the engine compartment of a vehicle. In fact, because standard circuit board materials conduct moisture, the projection of a circuit

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board outside the housing as taught by Davidson permits conduction of moisture into the interior of the housing, where it can degrade solder joints and condense into liquid water capable of shorting out circuits.

In order to better distinguish his invention as expressed in claim 1 over the cited prior art, applicant has amended claim 1 by adding a recitation that the electrical connector is "shaped and sized to close the open end of the housing while retaining the circuit board entirely within the housing...." This is clearly not taught by either reference of Examiner's combination.

Applicants have also claimed a slightly different aspect of his invention in a slightly different manner in his new claim 7, in which he recites that the housing comprises "a first housing member" (having an inner periphery shaped to accommodate said circuit board and said electrical connector) and that the electrical connector comprises "a second housing member that completes the housing...." This recitation of a two-piece housing in which one of the pieces is the electrical connector attached to the circuit board clearly distinguishes over the recited prior art, which uses a second housing member that is not the electrical connector.

Finally, applicant provides dependent claims 5, 6 and 8 for independent claims 1, 3 and 7, respectively, each of which recites that "the step of inserting said circuit board and attached electrical connector further comprises orienting the inserted circuit board substantially downwardly from the connector so that it is retained in an attitude substantially normal to the electrical connector that closes the open end of the housing." This is in contrast to the horizontal orientation of the circuit board, relative to the open end of the housing, in the Davidson reference.

Applicant believes that all presented claims distinguish over the cited prior art and that the claims are thus in condition for allowance.

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Respectfully submitted,



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